

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (currently amended) A nozzle having a spout through which a fuel flows from an upstream to a downstream direction, comprising:

a shutoff valve;

a bowed diaphragm biased closed in the upstream direction positioned downstream of the shutoff valve, and having a multi-branched opening to form a pressure-activated valve that seals a lumen of the spout against flow of the fuel; and wherein the diaphragm is responsive to fuel pressure in the spout.

2. (previously presented) The nozzle of claim 1 wherein the diaphragm is circumferentially coupled to the spout.

3. (previously presented) The nozzle of claim 2 wherein the diaphragm is substantially non-planar.

4. (original) The nozzle of claim 2 wherein the multi-branched opening has at least four branches.

5. (original) The nozzle of claim 1 wherein diaphragm is substantially donut shaped.

6. (original) The nozzle of claim 1 wherein the diaphragm comprises a continuous piece of a polymer.

7. (original) The nozzle of claim 6 wherein the polymer is selected from the group consisting of a urethane, a rubber, and a silicone.

8. (original) The nozzle of claim 1 wherein the diaphragm is positioned such that there is substantially no dead space between the diaphragm and the end of the spout.

9. (previously presented) The nozzle of claim 1 wherein the diaphragm has a flexibility such that during operation of the nozzle, a point of greatest travel of the diaphragm is less than 2 cm.

10. (previously presented) The nozzle of claim 1 wherein the diaphragm is has a flexibility such that during operation of the nozzle, a point of greatest travel of the diaphragm is at least one 0.25 cm.

11. Canceled.

12. (previously presented) The nozzle of claim 1 wherein the diaphragm is packaged in an installation frame sized and dimensioned to be inserted into the spout.

13. (original) The nozzle of claim 1 wherein the diaphragm extends substantially normally across the spout.

14. Canceled.

15. (original) The nozzle of claim 10 wherein the diaphragm is packaged in an installation frame.

16. (currently amended) A diaphragm for use as a valve in a spout of an automotive fuel dispensing nozzle, comprising:

an outer portion sized and dimensioned to fit snugly circumferentially against the spout;
a flexible diaphragm defining a fluid passageway having at least three branches, and
biased-bowed into a domed configuration biased closed in an upstream direction,
wherein the fluid passageway is closed in the domed configuration and open in a configuration other than the domed configuration; and
the diaphragm sufficiently flexible to at least partially open the fluid passageway when the diaphragm is subjected to an upstream fuel pressure in the spout of less than 1.5 atmospheres.

17. (previously presented) The diaphragm of claim 16 wherein the diaphragm has an outer ring portion that is continuous with the domed portion.

18. (previously presented) The diaphragm of claim 16 wherein the diaphragm is sized and dimensioned to be positioned near an end of the spout.

19. (previously presented) The diaphragm of claim 16 wherein the multi-branched fluid passageway comprises at least three branches.

20. (original) The diaphragm of claim 16 wherein diaphragm is substantially donut shaped.

21. (original) The diaphragm of claim 16 wherein the inner portion comprises a polymer selected from the group consisting of a urethane, a rubber, and a silicone.

22. (original) The diaphragm of claim 16 wherein the diaphragm is sufficiently flexible to open the fluid passageway at least 90% when the diaphragm is subjected to a pressure less than 1.5 atmospheres.